

VOL. II

LOYOLA UNIVERSITY

COLLEGE OF LIBERAL ARTS AND SCIENCES

BULLETIN



NEW ORLEANS, LA.

1920-1921

COURSES

OFFERED AT LOYOLA UNIVERSITY.

- A. COLLEGIATE-CLASSICAL COURSE: A four-year course leading to the Degrees A. B. and A. M. This course offers the best foundation for a business or professional career.

Next session opens Friday, September 24th.

- B. COLLEGIATE-SCIENTIFIC COURSE: A four-year course leading to the Degree B. S. A practical course for the professional student.

Next session opens Friday, September 24th.

- C. LAW COURSE: A three-year course leading to the Degree LL. B. Entire field of law covered, preparing the student for practice in Louisiana.

Department opens Monday, September 20th.

- D. DENTAL COURSE: A four-year course leading to the Degree D. D. S. Thoroughly modern and practical; excellent clinic facilities.

Department opens Friday, September 24th.

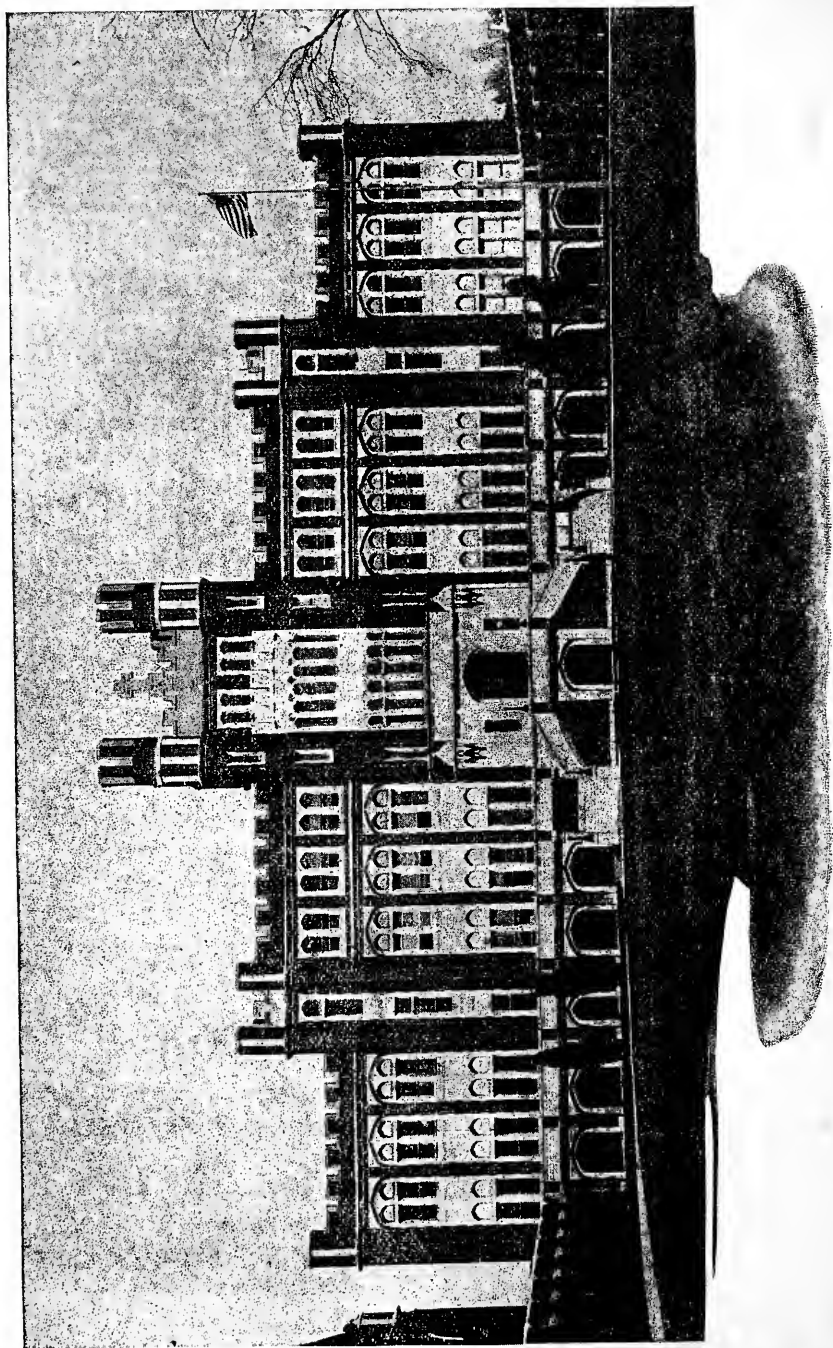
- E. PHARMACY COURSE: A Two-year course leading to the Degree Ph. G.

Department opens Monday, September 20th.

- F. AUTO-MECHANICS: Day and night. Enter any time.

(Continued on Back Cover.)





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AND SCIENCES**

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LOYOLA UNIVERSITY.

COLLEGE OF ARTS AND SCIENCES.

CALENDAR

1920.

September 9-10..... Entrance and Condition Examinations.
September 16-17....Registration.
September 24.....Opening of Classes.
October 8.....Mass of the Holy Ghost.
November 1.....All Saints' Day. Holiday.
November 25.....Thanksgiving. Holiday.
December 8.....Feast of the Immaculate Conception. Holiday.
December 23.....Christmas Vacations begin.

1921.

January 3.....Classes resumed. Repetitions for Session
Examinations begin.
February 2.....Second Term begins.
February 8.....Mardi Gras. Holiday.
March 24.....Easter Vacations begin.
March 30.....Classes resumed.
May 3.....President's Day. Holiday.
May 4.....Repetitions begin.
May 11.....Examinations begin.
June 13.....Commencement.

BOARD OF TRUSTEES

REV. EDWARD A. CUMMINGS, S. J.,

President.

REV. MICHAEL J. WALSH, S. J.

REV. THOMAS S. McGRATH, S. J.

REV. MICHAEL KENNY, S. J.

REV. FLORENCE D. SULLIVAN, S. J.

REV. JOHN J. NAVIN, S. J.

REV. WALLACE A. BURK, S. J.

The Legal and Corporate Title of the University is:

“LOYOLA UNIVERSITY, NEW ORLEANS, LOUISIANA.”

All donations, endowments, legacies, bequests, etc., should be made out under this title.

OFFICERS AND FACULTY

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President of the University.

REV. MICHAEL J. WALSH, S. J.,
Vice-President.

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REV. F. D. SULLIVAN, S. J.,
English and Mathematics.

MR. S. L. TIBLIER, M. S.,
Chemistry and Biology.

REV. F. X. TWELLMEYER, S. J.,
Regent of Summer School.

THE JESUIT SYSTEM OF EDUCATION.

Education, as understood by the Fathers of the Society of Jesus, in its complete sense, is the full and harmonious development of all those faculties that are distinctive of man. It is not, therefore, mere instruction or the communication of knowledge. In fact, the acquisition of knowledge, though it necessarily accompanies any right system of education, is a secondary result of education. Learning is an instrument of education, not its end. The end is culture, and mental and moral development.

The purpose of the mental training given in the undergraduate courses is not proximately to fit the student for some special employment or profession, but to give him such a general, vigorous and rounded development as will enable him to cope successfully, even with the unforeseen emergencies of life. While giving the mind stay, it tends to remove the insularity of thought and want of mental elasticity, which is one of the most hopeless and disheartening results of specialism in students who have not

brought to their studies the uniform mental training given by a systematic college course.

Understanding, then, clearly, the purposes of education, such instruments of education, that is, such studies, sciences or languages are chosen as will most effectively further that end. These studies are chosen, moreover, only in proportion and in such numbers as are sufficient and required.

It is fundamental in the system of the Society of Jesus that different studies have distinct and peculiar educational values. Mathematics, the Natural Sciences, Language and History are complementary instruments of education to which the doctrine of equivalence cannot be applied. The specific training given by one cannot be supplied by another.

A special importance is attached to the classic tongues of Rome and Greece. As these are languages with a structure and idiom remote from the language of the student, the study of them lays bare before him the laws of thought and logic, and requires attention, reflection and analysis for the fundamental relations between thought and grammar. In studying them the student is led to the fundamental recesses of language. They exercise him in exactness of conception in grasping the foreign thought, and in delicacy of expression in clothing that thought in the dissimilar garb of the mother-tongue. While recognizing, then, in education, the necessity and importance of Mathematics and the Natural Sciences, which unfold the inter-dependence and the laws of the world of time and space, the Jesuit system of education has unwaveringly kept Language in a position of honor as an instrument of culture.

GENERAL STATEMENT.

In response to a general demand from the public and to meet the wishes of His Grace, Archbishop Blenk, the Jesuit Fathers opened a Catholic University in New Orleans in the Fall of 1911. This University is a part of the great Jesuit University System, which numbers an actual attendance of over fifty thousand students. Its aim is to put a heart and a conscience into secular instruction, and to vitalize knowledge by the influence of fundamental religious principles.

The Jesuit system of education aims at developing, side by side, the moral and intellectual faculties of the student, and sending forth to the world men of sound judgment, of acute and rounded intellect, of upright and manly conscience.

The various courses offered by the University are open to students irrespective of creed, and the religious tenets of all are studiously respected. Nevertheless, the course of instruction in all branches supposes the existence of God, and man's entire dependence upon the Supreme Being. The pernicious effects of Materialism, Skepticism, Rationalism, etc., will not be permitted to exercise influence in any course, professional or non-professional, nor will any statement or theory conflicting with Divine revelation be countenanced. Moreover, God's holy commandments will be esteemed and revered, and our young men will be taught a code of ethics which will acknowledge God's rights and supreme dominion over man.

Location and Buildings.

Loyola University is admirably situated in the garden district of the City of New Orleans, on St. Charles Avenue, opposite Audubon Park. The Prytania, Carondelet, Clio, St. Charles, Tulane, Coliseum and Henry Clay street cars make it easily accessible from all parts of the city.

The University group of buildings includes Marquette Hall, the Louise C. Thomas Hall, the McDermott Memorial Church, known as the Gesu, the Nicholas D. Burke Seismic Observatory, the Pharmacy and Auto-Mechanics buildings.

Marquette Hall, the main building, is at right angles to the

central axis of the property and approximately three hundred feet from St. Charles Avenue.

The Louise C. Thomas Hall is at the southeast corner of the front quadrangle court and its main entrance is sixty feet from the Avenue.

The McDermott Memorial Church, the gift of Miss Kate McDermott in memory of her brother, the late Thomas McDermott, at the southwest corner of Marquette Hall, completes the front quadrangle.

The Nicholas D. Burke Seismic Observatory is on the main property axis and is directly in the rear of Marquette Hall, and on the central point of a future rear quadrangle. It is equipped with two seismonographs, a horizontal and vertical of the Wiechert astatic type. An astronomical clock registers the exact time at which graphs are recorded.

The architecture, Tudor Gothic, has become one of the most pliable and favorable types for collegiate buildings and is extremely well adapted to church work.

The exteriors of the main buildings, which are entirely fire-proof, are constructed of lime-stone and tapestry brick of a dark and rich red color, laid with large joints of about the same tone as the limestone.

Ventilation and light have been two most important considerations in the planning and design of those buildings. Low pressure steam heat is supplied from the central power plant in the basement of the Marquette Hall.

AN APPEAL.

The Jesuit Fathers feel a confident hope that the friends of education will make Loyola University one of the great institutions of the South. Loyola will be a valuable asset to this community and to the entire South, when the United States of America shall have come into closer commercial and social relations with Central and South America, the West Indies and the Philippine Islands.

May she not then appeal for moral and financial support to those who believe that the integrity of our people and the perman-

ency of our institutions rest on the principles for which she will always stand?

Loyola needs funds to establish the different departments, to endow her professional chairs and to found scholarships for deserving boys. Other institutions are the recipients of large sums. Why should not Loyola, which stands for the noblest in life, enlist the generosity and patronage of those whom God has blessed with wealth?

Scholarships.

To found a scholarship in the College Department of Loyola University, the sum of Two Thousand Dollars will suffice. The founder has a right to keep a student in this department in perpetuity, a new beneficiary being eligible as soon as his predecessor has either completed the course or has left the University. The honor is forfeited by any holder of scholarship whose average for two consecutive months falls below 70 per cent.

The University gratefully acknowledges the following scholarships.

Mr. W. P. Burke, three scholarships.

The Rev. A. E. Otis, S. J., scholarship donated by a friend.

The Rev. A. Biever, S. J., scholarship donated by a friend.

National Council of K. C., two scholarships.

State Councils of K. C., two scholarships.

St. Ignatius Scholarship donated by Miss E. S. Fitch.

St. Ignatius Scholarship donated by a friend.

Scholarship donated by Men's Sodality of Jesuits Church.

Francis Xavier Wegmann Scholarship.

EQUIPMENT.

Chemistry: The lecture room and laboratories are situated on the third floor of Marquette Hall. The lecture room is equipped with all necessary apparatus and chemicals for demonstration work. Forty students are easily accommodated.

The laboratory of general chemistry and qualitative analysis is equipped with lockers and working space for sixty-four students. Thirty-two students are allowed to work at a time. There is a

large fume chamber at one end of the laboratory, extra tables for titration work, a bench for centrifuge work and a store room for stock reagents.

The laboratory of Quantative Analysis is situated across the hall from the general laboratory and is equipped with furnaces, both gas and electric, titration outfits, necessary glassware, etc. The balance room is situated on the other side of the lecture room, free from vibration, heat and fumes. This laboratory will accommodate twenty students and is equipped with the necessary number of lockers. Ten students are allowed to work at a time.

The University has recently added considerably to its chemical equipment, including calorimeters, tintphotometers, microscopes, furnaces, delicate balances, etc.

The University is about to build the necessary laboratories to accommodate students for practically any class of work along chemical lines.

Biology: The lecture room is large and well lighted and will accommodate forty students. It is equipped with all the necessary botanical and zoological specimens for demonstration work.

The laboratory is well equipped with all working apparatus including microscopes, microtomes, lantern slides, microscopic sections, etc. The working tables are equipped with light, gas and water.

There is a special lecture room on the second floor in Marquette Hall called "The Balopticon Room." It is equipped with an up-to-date Bausch and Lomb Balopticon. This room is used for demonstration work with lantern slides, microscopic examinations and opaque projection.

Physics: The Physics Department equipment occupies three rooms on the second floor of Marquette Hall and a special repair shop in the basement. The equipment includes a very large collection of apparatus for the study of mechanics and mechanical engineering, such as the Pratt Institute Applied Physics Apparatus. The equipment compares favorably with that of any university in the country. We call attention to only some of the apparatus recently acquired.

The Hilger Wavelength Spectrometer.

Schmidt and Haensch Polariscopes.

Heis-Ives Tintometer.

7 Calorimeters of Dubosq, Schreiner and Kennecott Type.

Riche Calorimeter.

Kohlraush Bridge.

Standard L. and N. Co. Bridge.

Carey Foster Bridge.

McNeil Rotary Pump.

These are only some of the instruments of the collection representing an investment of some \$200,000.

Pharmacy: The department is fully equipped for doing excellent work. The laboratories are provided with all the necessary fixtures and conveniences for general purposes, and contain fully equipped stands with reagents; and for each student a locker with apparatus under his own lock and key. The department maintains two pharmaceutical laboratories, one for the junior class and one for the senior class. The walls of the junior pharmacy laboratory are equipped with shelving under glass doors; this shelving is arranged to give the appearance of a modern drug store. On one side are arranged furniture bottles, labeled in pharmacopœial Latin, of all the official drugs and preparations and a good number of unofficial that are used in the average drug store.

Histology, Pathology, and Bacteriology: These laboratories are situated on the third floor of Marquette Hall, have a northern exposure and are well lighted. The equipment consists of specially designed tables which are equipped with running water, gas, and electricity, at each student's seat. A lead trough runs in the body of the table carrying off the waste water. In this way the students do not interfere with each other and all their work can be done without leaving their seats. Besides the laboratory is equipped with the usual sterilizers, autoclaves, incubators, microscopes, and other apparatus necessary for the courses.

The laboratory has continually on hand a good supply of laboratory animals, from which we can draw for our experiments.

TUITION FEE AND EXPENSES

IN THE

DEPARTMENT OF ARTS AND SCIENCES

The tuition fee is \$100.00 per annum, payable one-half in September, the other half in February.

Matriculation	\$10.00
Use of Chemicals and Apparatus per annum.....	10.00
Deposit for breakage.....	5.00
Diploma	10.00
Athletic Fee.....	5.00

Final examinations and credits will not be given till all bills are paid.

Board and Lodging.

Owing to the high cost of board and lodging the University has opened a dormitory building for the benefit of its students. Each room will comfortably accommodate two students. The charge will be about \$35.00 a month payable in advance. This fee will not be refunded even should a student withdraw in the course of the month.

SPECIAL REGULATIONS.

Attendance.

As regular attendance is an important element in class standing and an essential condition for successful work, students must not be detained or withdrawn from classes except for very grave reasons. Mere absence does not excuse a student from the obliga-

tion of preparing his ordinary recitations or relieve him from any part of his examinations.

Home Study.

All the endeavors of the Faculty will fail to insure success for the students unless they apply themselves to their studies with diligence and constancy outside of class hours. Parents and guardians are, therefore, respectfully urged to insist on this application.

Politeness.

Besides religious and moral training, much importance is attached to the development of the manners of perfect gentlemen. Whatever is contrary to good breeding is out of place in College.

Parental Government and Sanctions.

The College regulations are enforced with gentleness combined with firmness. Religious motives, with motives of honor or duty, being habitually appealed to, little need is felt of frequent or severe punishment. Flagrant misdemeanors, if detrimental to the reputation of the College or obstructive of the good of other students, are grounds for suspension or for expulsion, conditional or absolute. Gambling, the use of profane language or of aught bordering on immorality will subject the offender to immediate suspension or expulsion. Damages to the College property will be repaired at the expense of the offender.

Monthly Report.

Monthly competitive exercises are given in the various branches of class matter. The average result determines the student's class standing for each month and the monthly class honors. These honors are, with the averages of Good Conduct and of Application, read publicly each month in the presence of the President and Faculty and the assembled student body.

During the first week of each month a bulletin of Scholarship and Deportment is forwarded to parents, to be examined and

signed by them. On the scale used 100 is the maximum and zero the minimum. The student's rank is determined by his position in one of the following grades:

100—90.....	Very Good.
89—80.....	Good.
79—70.....	Fair.
69 or below	Deficient.

Religious Worship.

Although Loyola is a Catholic institution, nevertheless non-Catholics are admitted and their opinions respected. They are not required to participate in any distinctly Catholic exercises; nor shall they be refused admission to or denied any of the privileges, honors, or degrees of the University because of their religious tenets.

ADMISSION REQUIREMENTS.

Admission by Certificate.

A certificate from the Principal of the High School in which a student has been prepared for College will be accepted instead of examinations in the subjects offered for admission.

Admission by Examination.

An applicant without a High School certificate will have to pass an examination in the required subjects for the course he intends to follow and in such other subjects from the list of electives as he may present for entrance.

Detailed Statement.

All candidates for the Bachelor's Degree must present entrance credits amounting to sixteen units. A unit represents a year's study in a high school subject pursued five times a week.

The required units are as follows:

A. B. Course.

Latin	4 Units	Ancient History.....	1/2 Unit
Greek	2 Units	Modern History.....	1/2 Unit
English	3 Units	Science	1 Unit
Algebra	2 Units	Elective	1 Unit
Geometry.....		2 Units	

B. S. Course.

English	3 Units	Ancient History.....	1 Unit
Modern Language.....	2 Units	Science	2 Units
Algebra	2 Units	Elective	4 Units
Geometry.....		2 Units	

Elective Units.

The elective units must be taken from the following list:
 English Literature; Modern Language; American History;
 English History; Chemistry; Physical Geography.

REQUIREMENTS FOR DEGREES.

The conditions for the degrees of A. B. and B. S. are:

1. The completion of the four years course leading to the degree for which the student is a candidate.
2. A written thesis on some subject approved by the faculty.
3. A fee of \$10.00 for the diploma.

The conditions for the A. M. degree are:

1. One year of resident graduate study.
2. Specialized study in at least one major and one minor subject chosen from the following branches: Psychology, Ethics, Mathematics, History, English, Physics, Chemistry, Biology, Economics, Sociology.

A major consists of six semester courses or eighteen credits in one department. A minor consists of four semester courses or twelve semester credits in some department different from that of the major.

3. An examination in the matter studied.
4. A written thesis on a subject connected with the matter studied and approved by the Faculty.
5. A \$10.00 fee for the diploma.

The conditions for the M. S. degree are the same as those for the A. M. degree except that the major subject must be scientific.

Promotion.

No student will be promoted to a higher class or receive a diploma unless he has attained a grade of 70% in each branch.

If however, a student should receive a grade from 65 to 69, both inclusive, he will be conditioned and allowed to take another examination, but not later than the first week of the following December. Only one chance is given to remove a condition. Moreover a charge of \$1.00 will be made for every extra examination. Conditions will not be allowed in more than two branches.

No student will be allowed to take an examination in any branch in which he has an attendance record of less than 85%.

SCHEDULE FOR THE A. B. DEGREE.

Freshman.

First Term.	Credits.	Second Term.	Credits.
Latin 1	4	Latin 2	4
Greek 1	4	Greek 2	4
English 1, 2, 3	5	English 1a, 2a, 3a	5
Mathematics .. 1	5	Mathematics .. 2	5
History 1	3	History 2	3

Sophomore.

First Term.	Credits.	Second Term.	Credits.
Latin 3	4	Latin 4	4
Greek 3	3	Greek 4	3
English 4, 5, 5a	5	English 4a, 6	5
Mathematics .. 3	5	Mathematics .. 4	5
History 3	3	History 4	3

Junior.

First Term.	Credits.	Second Term.	Credits.
Philosophy 1, 2	8	Philosophy 3, 4	8
Chemistry 1	5	Chemistry 2	5
Language 1	4	Language 2	4

Senior.

First Term.	Credits.	Second Term.	Credits.
Philosophy 5	5	Philosophy 6	5
Ethics 1	5	Ethics 2	3
Modern Lang. 3	3	Modern Lang. 4	3
Physics 1	4	Physics 2	4
		Economics 1	2

SCHEDULE FOR THE B. S. DEGREE.**Freshman.**

First Term.	Credits.	Second Term.	Credits.
English 1, 2, 3	5	English 1a, 2a, 3a	5
Mathematics .. 1	5	Mathematics .. 2	5
History 1	3	History 1	3
Language 1	4	Language 2	4
Chemistry 1	5	Chemistry 2	5

Sophomore.

First Term.	Credits.	Second Term.	Credits.
English 4, 5, 5a	5	English 4a, 6	5
Mathematics .. 3	5	Mathematics .. 4	5
History 2	3	History 2	3
Language 3	4	Language 4	4
Chemistry 3	3	Chemistry 4	3

Junior.

First Term.	Credits.	Second Term.	Credits.
Philosophy 1, 2	8	Philosophy 3, 4	8
Physics 1	4	Physics 2	4
Mathematics .. 5	3	Mathematics .. 5	3

Senior.

First Term.	Credits.	Second Term.	Credits.
Philosophy 5	5	Philosophy 6	5
Ethics 1	4	Ethics 2	4
Biology 1	4	Biology 2	4
Physics 3	3	Economics 1	2

PRE-MEDICAL COURSE.

This is a two-year course and embraces the study of Chemistry, Biology, Physics, Freehand Drawing, Logic, Psychology, Ethics and a Modern Language.

Schedule.**FIRST YEAR.**

First Term.	Credits.	Second Term.	Credits.
English 1, 2, 3	3	English 1a, 2a, 3a	3
Chemistry 1	5	Chemistry 2	5
Biology 1	4	Biology 2	4
Philosophy 1, 2	5	Free hand D... ..	5
Modern Lang. 1	2	Modern Lang. 2	2

SECOND YEAR.

First Term.	Credits.	Second Term.	Credits.
Modern Lang. 3	4	Modern Lang. 4	4
Physics 1	4	Physics 2	4
Philosophy 5	5	Economics 1	2
Ethics 1	5	Ethics 2	3
Chemistry 3	4	Chemistry 4	4

Fee and Tuition.

The tuition is \$100.00 a year, payable one-half at the beginning of each term.

Matriculation	\$10.00
Athletic fee	5.00
Laboratory fee	15.00
Breakage deposit	5.00

SPECIAL COURSES.

To meet a constantly growing demand, the University offers special elective courses for those who do not wish to take up the regular studies leading to a degree.

These courses will embrace Physics, Chemistry, Biology, English Literature and Composition, History, Philosophy, and Modern Language, Drawing, Histology, Pathology and Bacteriology. Students for degrees who wish to take one or more of these electives may do so with the approval of the Vice-President.

DRAWING.

Loyola University offers a night course in elementary mechanical drawing. This course begins with the use of drawing instruments and lettering and sketching of simple objects. The theoretical instruction includes orthographic, isometric and cabinet projections and dimensioning of simple working drawings.

Two 2-hour drawing exercises per week.

The fee for this course is \$5.00 a month payable in advance. The first term will begin the first Monday of October.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Courses in these branches will be given for the benefit of special students. Histology comprises the study of normal human and animal tissues. The class is given mounted specimens and also specimens which are to be prepared and mounted.

The course in pathology comprises the study of pathological human specimens, special attention being given to neoplastic growths.

In bacteriology the course is confined to the usual bacteriological bacteria, their study, isolation and action on animals. It comprises also the various methods of diagnosis including sero-diagnosis and serology.

DESCRIPTION OF COURSES.

BIOLOGY.

1. *Zoology*: General natural history of common local vertebrates and invertebrates. The chief characteristics of phyla and principal classes of animals, including the prominent orders of insects and invertebrates.

2. External and internal structure of vertebrates, insects, mollusks and echinoderms.

3. The general physiology of the types mentioned in course 2. Comparative study of plant and animal life processes. Reproduction. Spontaneous generation. Origin of species. Variation. Mendelism.

4. *Botany*: Seeds, color, modified roots, homology of the flower, classes of plants, ecology.

CHEMISTRY.

1. *General Inorganic Chemistry*: The object of this course is to familiarize the student with the fundamental theories and principles of chemistry. This is done by means of lecture-demonstrations, recitations and laboratory work. Three lecture and two laboratory periods weekly one term. 5 Credits.

2. *Qualitative Analysis*: Theories and practice of analysis, the laws of equilibrium and theories of solution and electrolytic dissociation. Analysis of the more difficult metals, alloys, etc. Three lecture and two laboratory periods one term. 5 Credits.

3. *Quantitative Analysis*: This course is intended principally for those who intend to enter technical or engineering schools and embraces the typical gravimetric and volumetric processes. Two lecture and one laboratory periods for both terms. 6 Credits.

4. *Organic Chemistry*: This course is arranged to meet the

requirements of those who intend to study medicine after the completion of their college course. The course treats of the analysis and purification of organic compounds, embraces the paraffins, with their halogen derivatives, alcohols, ether, aldehydes, and ketones, acids, esters and the amines. Special attention is given to the carbohydrates and proteids; the aromatic hydrocarbons, and their halogen and nitro derivatives, the aniline dyes and the phenols. This work is supplemented by laboratory practice in the preparation of qualitative analysis of typical organic compounds. Two lecture and one three-hour laboratory period both terms.

6 Credits.

ECONOMICS.

Aim and Scope of Political Economy. General History of Economics. Leading Schools of Economics. Wealth, Value, Price. Factors of Production: Natural Resources, Labor, Capital. Industrial Organization. Industrial Progress. Consumption. Exchange. Money. Home Trade. Market Prices. Monometallism and Bimetallism. Commercial Credit. Banks and Banking. Free Trade and Profession. International Trade. Transportation. Railroads, Corporations. Real and Nominal Profits. Rent. Wages. Communists, Socialists, Anarchists, and the Division of Wealth. Revenues and Expenditures of Government Taxation. Public Debts.

2 Credits.

ENGLISH.

1. *Precepts of Literature*: The definition of literature. Characteristic qualities of the art. Its position among the fine arts. The elements of emotion, imagination, thought and form. The finer points of style (connotation, economy and suggestion) narration, description.

1 Credit.

1a. The nature and province of poetry. The emotional element in poetry. The imagination, the intellectual element and the study of form. Characteristics and types of epic, lyric and dramatic poetry. Laws of versification as exemplified in the ode, the sonnet, the Spenserian stanza, etc.

1 Credit.

2. Practical illustration of precepts of course 1 in the writings of Newman, Ruskin, Arnold, Scott, Thackeray and Hawthorne. At least one prose composition weekly. Home reading.

2 Credits.

2a. Practical illustration of course 1a in the poetry of Milton, Shelley, Keats, Wordsworth, Collins and Coleridge. Two of Shakespeare's plays. At least one composition in verse weekly. Home reading. 2 Credits.

3. *History of English Literature*: The Anglo-Saxon Period. The Transition Period. Age of Chaucer. Fifteenth Century. The Renaissance in England. The Elizabethan Age. Shakespeare. Cavaliers and Puritans. Milton. Historical Background. 2 Credits.

3a. The Restoration. The Augustan Age. Age of Johnson. Revival of Romanticism. The Period of the Revolution. The Victorian Age. Victorian Essayists. Victorian Poets. The Twentieth Century. Historical Background. 2 Credits.

4. *History of American Literature*: The Colonial Period. Revolutionary Period. Knickerbocker Writers. The Transcendentalists. The Antislavery Movement. Historical Background. 2 Credits.

4a. Cambridge Poets. Literature in the South. The Historians. Metropolitan Writers. Present Schools and Tendencies. Historical Background. 2 Credits.

5. Oratorical Composition. The invention of thought. Intrinsic, extrinsic and moral topics. Arrangement of thoughts. Plan of a discourse. Analysis and synopsis. Development of thought. Introduction of a speech. Narration and explanation. Proposition and division. Argumentation and refutation. At least one composition weekly. Home reading. 1 Credit.

5a. Precepts of course 5 applied to some of the masterpieces of British and American orators. The drawing of briefs. 2 Credits.

6. History and structure of the drama. Critical study and analysis of two plays of Shakespeare. Practice in dialogue writing and composition of short plays. Home reading. 3 Credits.

6a. The Essay, its history, structure and varieties. Study of selected essays. Home reading. 1 Credit.

7. Practice in essay writing. Collection and arrangement of material. 2 Credits.

ETHICS.

1. *General Ethics*: Human Acts, Morality of Human Acts,

Moral Obligation and Its Origin, Natural Law, Utilitarianism, Hedonism, Altruism. 2 Credits.

2. *Applied Ethics*: Rights and Duties, Worship, Self-Defence, Duelling, Communism, Socialism, Single Tax, Right to Property, Origin of Civil Society, Its Proximate and Ultimate End; Civil Authority, Legislative, Judicial, Executive Powers, Taxation, War, Capital Punishment; Relations of Church and State; Liberty of Conscience. 2 Credits.

EVIDENCES OF RELIGION.

1. Eschatology. Christian Morality. The Theological Virtues: Faith, Hope and Charity. (Wilmers, pp. 385-436). One hour a week, first term.

1a. The Virtues of Religion. Divine Worship. Christian Duties. Christian Perfection. (Wilmers, pp. 436-494). One hour a week, second term.

2. Grace. The Sacraments in General. Baptism. Confirmation. The Holy Eucharist. (Wilmers, pp. 279-341). One hour a week, first term.

2a. The Mass. Penance. Extreme Unction. Holy Orders. Matrimony. The Church as a Means of Salvation. (Wilmers, pp. 341-385). One hour a week, second term.

3. Revelation, Natural and Supernatural. Miracles and Prophecies. The Primitive, Patriarchal and Mosaic Revelation. The Christian Revelation. The Institution and End of the Church. (Wilmers, pp. 1-77). One hour a week, first term.

3a. The Constitution of the Church. St. Peter given the Primacy, not only of honor, but also of jurisdiction. The Pope, the Successor of St. Peter. The Infallibility of the Pope. The Marks of the Church. The Teaching Office of the Church. Sources of the Church's Teaching: Holy Scripture. Tradition. The Rule of Faith. (Wilmers, pp. 77-152). One hour a week, second term.

4. The Existence and the Nature of God. The Divine Attributes. The Unity of God. The Blessed Trinity. The Creation of the World. (Wilmers, pp. 152-219). One hour a week, first term.

4a. Creation and Fall of Man. The Incarnation. The Re-

demption. (Wilmers, pp. 219-279). One hour a week, second term.

GREEK.

1. Plato, The Apology. Homer, Odyssey. Herodotus, optional reading at sight. 4 Credits.

2. Demosthenes, Olynthiacs, I, II, III. Euripides, Hecuba. Herodotus, optional reading at sight.

Grammar: Review of Greek moods and the syntax of dependent sentences. General laws of verification. 4 Credits.

3. Sophocles, Œdipus Tyrannus, entire, translation, dramatic analysis, scansion. 4 Credits.

4. Demosthenes, De Corona, entire. Analysis of oratorical structure and style. Thorough acquaintance with the historical issues at stake. Plato's Republic Bk. I. 4 Credits.

5. Æschylus, Agamemnon. Plato, Crito and Phædo. St. Basil, Classical Literature. 4 Credits.

6. Aristophanes, Birds, or Frogs, or Wasps. Pindar, Olympic Odes, I, II, VI, VII. 4 Credits.

NOTE—The courses in Latin, Greek and English are, for greater educative effect, made parallel as much as possible. The theory of the different forms of literature is presented in the English courses, and the classic masterpieces studied in the Latin and Greek course furnish illustrative material to enforce the precepts and for comparative work. Poetry, with its various forms, is the subject of Freshman year; Oratory, of Sophomore; the Drama, of Junior; the Critical and Philosophical essay, of Senior.

HISTORY.

1. Foundation of Modern Europe. The countries of Europe at the beginning of the Sixteenth Century. European politics in the Sixteenth Century. The Protestant Revolt and the Catholic Reformation. The Culture of the Sixteenth Century. The growth of Absolutism in France and the struggle between Bourbons and Hapsburgs, 1589-1661. The growth of Absolutism in France and the struggle between Bourbons and Hapsburgs, 1661-1743. The triumph of parliamentary government in England. 3 Credits.

2. The world conflict of France and Great Britain. The Revolution within the British Empire. The Germanies in the

Eighteenth Century. The rise of Russia and the decline of Turkey, Sweden and Poland. European Society in the Eighteenth Century. European Governments in the Eighteenth Century. The French Revolution. The Era of Napoleon. 3 Credits.

3. Foundations of Modern Europe. The Era of Metternich, 1815-1830. Democracy and Nationalism. The industrial revolution. Democratic reforms and revolution, 1830-1849. The growth of Nationalism. Social factors in recent European history, 1871-1914. The United Kingdom of Great Britain and Ireland, 1867-1914. Latin Europe, 1870-1914. Teutonic Europe, 1871-1914. 3 Credits.

4. The Russian Empire, 1855-1914. The dismemberment of the Ottoman Empire, 1683-1914. National imperialism. The new imperialism and the spread of European civilization in Asia. The spread of European civilization in America and Africa. The British Empire. International relations, 1871-1914; and the outbreak of the war of nations. 3 Credits.

LANGUAGES.

FRENCH.

1. Review of the grammar. Simple French readings. French themes. 3 Credits.

2. French readings. More advanced themes based on the passages read. Conversation. 3 Credits.

3. Detailed study of one or two French texts. Original French composition. Letter writing. Conversation. 3 Credits.

4. Readings in French poetry. Critical study of one French play. 3 Credits.

GERMAN AND SPANISH.

The courses in these two languages will be parallel to those in French.

LATIN.

1. Cicero, Pro Archia. Horace, Ars Poetica. Vergil, Æneid, Book II, V, VI, or IX. Livy, Book XXI, CC. 1-20, and for reading at sight CC. 21-25. 4 Credits.

2. Cicero, De Signis, Second Philippic, or Pro Marcello. Horace, Odes. Livy, Book XXI, CC. 35-54, and for reading at sight CC. 55-63. 4 Credits.

3. Cicero, *Pro Lege Manilia*. Horace, *Epodes*, *Satires*, *Epistles*, *Carmen Saeculare*. Tacitus, *Agricola*, and for reading at sight, *Germania*. 4 Credits.

4. Cicero, *Pro Milone* and *Pro Ligario*. Juvenal, *Satires*. Tacitus, *Annales*. 4 Credits.

Besides thorough drill in Latin syntax, prosody, and versification, the student is given frequent practice in Latin composition and in elegant, idiomatic English translation. Special stress will be laid on the style and structure of the ancient classical masterpieces and they will be studied side by side with specimens of our best modern literature.

MATHEMATICS.

1. *Plane Trigonometry*: Trigonometric Functions of Acute Angles. The Right Triangle, Goniometry, the Oblique Triangle, Construction of Tables, Surveying.

Text: Wentworth.

5 Credits.

2. *Higher Algebra*: Progressions, Indeterminate Coefficient, Binominal Theorem, Common Logarithms, Interests and Annuities, Choice, Chance, Continued Fractions, Scales of Notation, Theory of Numbers, Variables and Limits, Series, General Properties of Equations, Numerical Equations, Determinants, Complex Numbers.

Text: Wentworth's College Algebra.

5 Credits.

3. *Mechanics*: Kinematics—Motion, Acceleration, Composition and Resolution of Velocities.

Dynamics—Momentum, Newton's Laws of Motion, Measurement of Force, Central Forces, Friction, Work and Energy, Conservation and Correlation of Energy.

Statics—Composition and Resolution of Forces, Centre of Gravity, Machines, Lever, Balance, Steelyard, Togglejoint, Compound Levers, Wheel and Axle, Toothed Wheels, Pulley, Inclined Plane, Wedge, Screw, Pendulum.

Text: Dana.

5 Credits

4. *Analytic Geometry*: Loci and Equations. The Straight Line. The Circle. The Different Systems of Coordinates. The Parabola. The Ellipse. The Hyperbola.

Text: Wentworth.

5 Credits.

5. *Differential and Integral Calculus*: Introductory Prob-

lems, Algebraic Notions, Definitions, Differentiation of Ordinary Functions and Applications, Successive Differentiation, Differentiation of Functions of Several Variables, Change of Variable, Concavity and Convexity, Theorems of Mean Value, Indeterminate Forms, Curves, Motion, Infinite Series, Taylor's Theorem, Integration, Elementary Integrals, Applications, Integrations of Irrational and Trigonometric Functions, Approximate, Mechanical Infinite and Successive Integration and Applications, Inertia, Differential Equations.

Text: Murray.

5 Credits.

PHILOSOPHY.

1. *Logic*: Simple Apprehension, Terms, Definition, Division, Judgments, Proportion, Classification according to Quantity and Quality, Opposition, Equivalence, Conversion, Reasoning, Underlying Principles, the Syllogism, its Laws and Species, Induction, Method, the Circle.

5 Credits.

2. *Applied Logic*: Logical Truth and Falsity, Certitude, Its Degrees, Elements and Kinds: Skepticism, Universal and Partial; Consciousness, the Senses, the Intellect; Nominalism, Conceptualism, Realism, Ultra-Realism. Testimony, Tradition, History, the New Criticism, Reason and Revelation, Ultimate Motive of Certitude, Evidence.

5 Credits.

3. *General Metaphysics*: Basic Notions, Being, Analogy, Unity, Identity, Distinction, Truth, Goodness, Evil, Act and Potentiality; Possibility, Intrinsic and Extrinsic; Substance, Accident, Categories of Aristotle.

Etiology: Principle, Cause, Condition, Occasion; Matter, Primordial and Secondary; Form, Substantial and Accidental; Efficiency and Action, Finalty.

5 Credits.

4. *Cosmology*: General Properties of Corporeal Substances, Intrinsic Constituents of Corporeal Substances, Atomism, Dynamism, Hylomorphism, Organic Life in General, Vegetative Life, Sensitive Life, Origin of Species, Miracles.

5 Credits.

5. *Psychology*: Nature of the human soul. Its union with

the body. Its simplicity, spirituality, immortality. Origin of ideas. The nature and freedom of the will. 2 Credits.

6. *Natural Theology*: Existence and Nature of God; Metaphysical, Physical and Moral Proofs. 2 Credits.

PHYSICS.

1. *Hydrostatics and Properties of Bodies*:

Pressure exerted by a fluid; density of liquids; floatation. Pascal's law; law of Archimedes; methods of determining specific gravities; hydrometers and guages. Elasticity of liquids; hydraulic press; pumps and syphons; steam and water turbine, etc. Isotropic bodies; malleability and ductility; elasticity of volume, rigidity; elongation; Young's modulus; Hooke's law; bending; torsional rigidity, elastic limit; elastic fatigue, etc.

Wave motion, and water waves in their analogy to sound waves; velocity of sound in air; law of velocity of sound propagation; quality of sounds; musical scale; interference of sound waves; vibrations of strings; resonators; audition; consonance and dissonance; production of vocal sounds, etc. Three lecture and two laboratory periods a week, one term. 5 Credits.

2. *Light, Heat and Electricity*:

A lecture and laboratory course on the reflection and refraction of light, lenses and their uses; microscope; telescope. Photometry; velocity of light; dispersion; interference; color sensation; polarization, etc.

Thermometers and the laws of heat expansion in gases and liquid; expansion of metals; the law of Charles; absolute zero.

Calorimetry; melting and boiling points; latent heat of fusion; determination of the mechanical equivalent of heat; work done by a gas during expansion; steam pressure, superheated steam; steam and gas engines.

The object of the course in Electricity is to familiarize the student with first principles in the heating, lighting, electrolytic and magnetic effects of currents. Batteries of various types, storage cells, spark coils, magnetos, dynamos and motors, telephone apparatus, galvanometers, voltmeters and ammeters are placed at his disposal for study and experiment. Three lecture and two laboratory periods a week, one term. 5 Credits.

3. *Theory and Methods of Physical Measurements:*

The construction, use and adjustments of accurate laboratory apparatus, particular attention being paid to optical and electrical measurements. One lecture and two laboratory periods a week, one term. 3 Credits.

PUBLIC SPEAKING.

Dramatic and oratorical practice. Declamation, extempore speaking, debates, criticism and discussion of interpretation and delivery. 2 Credits.

- G. POST-GRADUATE MEDICAL COURSE: General and special courses in every branch of medicine and surgery for graduate physicians. Courses may be begun at any time.

Next session opens Monday, October 4th.

- H. WIRELESS TELEGRAPHY COURSES: A one-year course fitting students for position as practical operators.

Department opens Monday, October 4th.

- I. PRE-MEDICAL COURSE: A two-year course in Biology, Bacteriology, Botany, Physics, Chemistry, English and Modern Languages, for prospective medical students.

Next session opens Friday, September 24th.

- J. NIGHT SCHOOL OF COMMERCE AND FINANCE: Monday October 4th.

- K. NIGHT DRAWING CLASSES: Monday, October 4th.

- L. ORATORY COURSE: A three-year course, embracing Elocution, Oratory and Dramatics, leading to the Degree B. O.

Department opens September 26th.

